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REALTRAIN IMPROVES SOLDIER ATTITUDES TOWARD THE ARMY

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Although the Army is concerned primarily with improving the combat readiness of its units, there is a growing orientation toward enhancing the job motivation and satisfaction of soldiers. To improve the psychological rewards that are derived from training, the Army Research Institute has developed a family of techniques for simulating battlefield conditions. These techniques are known collectively as Engagement Simulation (ES). The squad and platoon level application of ES is referred to as REALTRAIN. REALTRAIN can be

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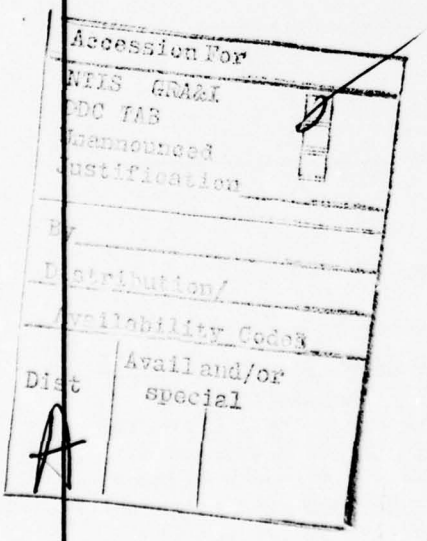
distinguished from more conventional training along a number of dimensions including the degree of operating constraints in the exercises, type of casualty assessment, nature of evaluative feedback, and sequence of training procedures.

A paper-and-pencil instrument was constructed to measure various dimensions of job-related motivation and satisfaction. This instrument was administered to soldiers either before or after their participation in combined-arms exercises. This instrument was used in two separate field investigations. One study examined the impact of REALTRAIN alone on motivation/satisfaction responses, and the other compared the relative impact of both REALTRAIN and conventional training.

The results indicated that along six of the nine motivation/satisfaction dimensions, responses were more positive following participation in REALTRAIN than before its implementation. Along the remaining three dimensions, no change was observed in the before and after measures of motivation/satisfaction. However, for the conventional exercises, no change was seen in the before and after responses of participants along five of the six motivation/satisfaction dimensions. Along the remaining dimension, a decline occurred in the satisfaction level evidenced by participants in the conventional training.



Technical Paper 363

REALTRAIN IMPROVES SOLDIER ATTITUDES TOWARD THE ARMY

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FOREWORD

The research reported here is part of a broader program on combat unit training being conducted by the Army Research Institute for the Behavioral and Social Sciences (ARI). Since 1972, ARI has conducted research on the development and evaluation of new training techniques, particularly crew training and tactical training in the unit context. The Army Training and Doctrine Command (TRADOC) has identified small unit tactical engagement simulation training as its highest behavioral science research priority. ARI developed a tactical engagement simulation method known as REALTRAIN which provides extremely realistic and motivating training for small combat-arms units. Simple but effective casualty assessment techniques are used in REALTRAIN to conduct engagement simulation training up to the reinforced platoon level.

This report documents the results of the analysis of data collected during the conduct of REALTRAIN exercises as implemented by a TRADOC Mobile Training Team (MTT) during the period from 3 November 1975 to 5 March 1976. The data were obtained from infantry and armor battalions at four divisional training sites throughout the U.S. Army, Europe (USAREUR). The results were obtained from an investigation of squads involved in both REALTRAIN and conventional exercises.

The program is responsive to the requirements of Army Project 2Q763731A773 and the Program Manager for Tactical Engagement Simulation Systems of the Training Device Directorate, Training Support Center TRADOC at Fort Eustis, Va. (formerly of the Combat Arms Training Board at Fort Benning, Ga.).

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REALTRAIN IMPROVES SOLDIER ATTITUDES TOWARD THE ARMY

BRIEF

Although the Army is concerned primarily with improving the combat readiness of its units, there is a growing orientation toward enhancing the job motivation and satisfaction of soldiers. To improve the psychological rewards derived from training, the Army Research Institute (ARI) has developed a family of techniques for simulating battlefield conditions. These techniques are known collectively as Engagement Simulation (ES). The squad and platoon level application of ES is referred to as REALTRAIN. REALTRAIN can be distinguished from more conventional training along a number of dimensions including the degree of operating constraints built into the exercises, type of casualty assessment, nature of evaluative feedback, and sequence of training procedures.

A paper-and-pencil test, constructed to measure various dimensions of job-related motivation and satisfaction, was administered to soldiers either before or after their participation in combined-arms exercises. This test was used in two separate field investigations. One study examined the impact of REALTRAIN alone on motivation/satisfaction responses, and the other compared the relative impact of both REALTRAIN and conventional training.

The results indicated that along six of the nine motivation/satisfaction dimensions used in the first investigation, responses were more positive following participation in REALTRAIN than before its implementation. Along the remaining three dimensions, no change was observed in the before and after measures of motivation/satisfaction. However, for the conventional exercises, no change was seen in the before and after responses of participants along five of the six motivation/satisfaction dimensions used in the second investigation. Along the one remaining dimension, a decline occurred in the satisfaction level evidenced by the participants in the conventional training. For the REALTRAIN groups involved in the second experiment, motivation/satisfaction responses were enhanced along four of the six dimensions, and there were no changes in the remaining two.

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INTRODUCTION

Although the Army is concerned primarily with improving the combat readiness of its units, there is a growing orientation toward enhancing the job satisfaction of soldiers. This heightened interest stems from the Army's need to compete with other military and civilian organizations to obtain recruits for the all-volunteer Army. Moreover, because of the high costs associated with the recruitment and training of new personnel, the Army is striving to retain soldiers who have acquired particular job skills.

A variety of incentives have been introduced to increase the enlisted person's motivation to pursue a career in the Army. Most of these involve such external benefits as increased pay and improved living quarters. Unfortunately, these inducements have not had the intended effect of changing the perceptions of soldiers regarding the "quality" of Army life. The findings reported in this paper suggest that the emphasis should be shifted from external incentives to those that are intrinsic to the performance of normal military functions. Thus, instead of providing tangible inducements to work, the Army should stress work that provides its own rewards.

In 1971, the Army's Chief of Staff (CSA) formally recognized the importance of intrinsic incentives in such activities as combat training. Specifically, the Board for Dynamic Training was established to recommend "how to make training in units more exciting and meaningful to participants." One key finding of this effort was that Army training was not regarded as dynamic in the sense of providing a stimulating learning experience for participants. Furthermore, most training did not enhance the job-related satisfaction of soldiers; that is, it did not encourage soldiers to learn and grow to their fullest potential through the exposure to activities that exercised their talents and skills.

REALTRAIN

To remedy deficiencies in combat training, a family of techniques has been devised to simulate battlefield conditions and provide a realistic training environment. These techniques are known collectively as Engagement Simulation (ES) and were developed by ARI in association with the Combined Arms Training Board (CATB) and TRADOC. The squad and platoon level application of ES for combined-arms teams is referred to as REALTRAIN. Because a detailed explanation of REALTRAIN already

has been provided in Infantry magazine,[1] this report will focus primarily on REALTRAIN's distinctiveness from more conventional training and its intrinsic motivational qualities.

REALTRAIN can be distinguished from conventional training along a number of dimensions (see Table 1). REALTRAIN involves two-sided free-play engagements that are conducted without external interference but with limitations on time and territory. Casualties are determined during engagements by a specified set of rules. These rules are enforced with each squad/crew by controllers who communicate with each other over a control net. They verify the number of times combatants using scopes are able to identify numbers displayed on an opponent's helmet (or vehicle) while simulating fire on that opponent. Immediately after each exercise, an After Action Review (AAR) is conducted in which all of the participants discuss the circumstances surrounding each casualty. An opportunity to correct mistakes is provided by having participants perform similar exercises in subsequent training periods.

REALTRAIN seems to provide a number of psychological rewards that are expected to increase soldier job satisfaction. The immediate and objective appraisal of casualties allows each performer to determine his contribution to his unit's effectiveness and to the ultimate outcome of each engagement. The members of each unit can experience the "thrill of victory" or "agony of defeat" that results from actual performance, rather than from a preplanned scenario. Moreover, soldiers can gain peer approval or benefit from constructive criticisms during the AAR. Finally, participants are motivated to improve their performance in successive exercises and to change from losers to winners. The competitive, game-like nature of REALTRAIN enhances the involvement of participants while developing behaviors that are crucial for survival in an actual combat situation.

SUBJECTIVE REACTIONS TO COMBAT TRAINING

A critical test of the psychological benefits of REALTRAIN would be ability to boost troop morale. This appears to be the case according to anecdotal evidence obtained from observers in the field and personal interviews with participants. When engaging in REALTRAIN, soldiers reveal a keen sense of involvement in the exercises. For example, a platoon sergeant participating in a lengthy series of REALTRAIN exercises in Germany remarked with pride that "They (his troops) want to stay another month. Since we began training, I've

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[1] Anderson, J. & Sherwood, E. REALTRAIN. Infantry, 1975 (no. 1), 20-3.

Table 1

Comparisons Between REALTRAIN and Conventional Training

Dimensions	REALTRAIN	Conventional
Exercise type	Free-play engagements between opposing forces under only time and territorial constraints.	Sequence of prearranged scenarios with a fixed schedule of OPFOR activities and planned execution of combat tasks by tested unit.
Casualty assessment	Objective determination of weapons effects including indirect fire using devices (e.g., scopes, simulators, net control radio system) monitored by controllers. Immediate feedback for "kills." Signatures of various individual and crew-served weapons are simulated.	Casualties assessed by subjective judgments of a limited number of umpires.
Evaluative feedback	After Action Review conducted after each exercise which involves a group discussion about the circumstances that surround actions and "kills" inflicted.	Evaluative critique of the tested unit by evaluation team after completion of all the exercises.
Training procedure	Repetitions of two-sided free-play exercises of increasingly greater difficulty with time set aside for remedial tactical training.	One trial performance of a series of specified training tasks.

had a total of three sick calls and those were due to the flu epidemic."[2]

Since anecdotal evidence generally is unsystematic and qualitative in nature, an assessment of the subjective reactions of participants through controlled field research was necessary. Two such investigations were conducted, one with small combined-arms teams in Europe and the other with rifle squads in the United States. In the first field test, comparisons were made between soldiers who were in REALTRAIN for only 1 week and those involved for 3 consecutive weeks. In the second experiment, soldiers engaged in REALTRAIN for 3 days were compared to those performing conventional exercises for the same period. In both cases, each participant separately responded to a paper-and-pencil test. This test included items that reflected attitudes toward the exercises as well as military life in general.

Motivation/Satisfaction Instrument

The initial version of the test included 42 attitude statements that reflected nine separate dimensions of job-related motivation and satisfaction (see Table 2). Each respondent indicated his own reaction to each of the statements by checking a position on a 6-point scale which ranged from strongly disagree (1) to strongly agree (6). Because the instrument was completed both before and after the training exercises were conducted, it was necessary to modify the wording of 13 items that pertained directly to the exercises (i.e., Dimensions 1-4 in Table 2). The future tense was used for the items on the "before" form as in "I expect that the training exercises that I am about to begin will be similar to an actual combat situation," whereas the past tense was used on the "after" form.

Responses to the "before" items indicate motivation, since they reflect expectations about the qualities of and potential benefits to be derived from the forthcoming exercises. Thus, motivation is conceptualized according to established industrial psychological principles. That is, motivation is viewed as the product of the worker's belief that his efforts will result in an effective performance, and his anticipation that desired outcomes will follow such a performance. In contrast, responses to the "after" items represent the participant's perceptions of the personal benefits that he derived from the session and, consequently, reveal his satisfaction with the training.

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[2] Root, R. T., Epstein, K. I., Steinheiser, F. H., Hayes, J. F., Wood, S. E., Sulzen, R. H., Burgess, G. G., Mirabella, A., Erwin, D. E., & Johnson, E. Initial Validation of REALTRAIN with Army Combat Units in Europe. ARI Research Report 1191, October 1976.

Table 2

Description of Subjective Dimensions

Title of dimension	Number of items	Description
1. Psychological Fidelity	3	Deals with participant perceptions about the similarity of the exercises to actual combat conditions and the impact of the training on awareness of both the physical dangers and discomforts of combat.
2. Self-Improvement	2	Relates to the respondent's beliefs about the exercise as improving his combat abilities and as being worthwhile to him.
3. Leader Self-Improvement	6	Reflects leader perceptions of the impact of the exercises on their actions toward subordinates in terms of keeping them informed, explaining what actions are needed and why, accepting responsibility for their men's mistakes, willingness to provide special training, and awareness of subordinate's capabilities.
4. Training Programs	2	Pertains to the extent to which participants believe that making the exercise a regular part of their training program would increase their desire and that of others to reenlist.
5. Military Work Role	7	Pertains to the soldier's orientation toward his assigned duties in the Army with regard to enjoyment of daily activities, working conditions, relevance and quality of previous training, importance of Army job, sense of accomplishment from daily duties, and overall satisfaction with military service.

Table 2 (Continued)

Title of dimension	Number of items	Description
6. Career Intentions	2	Concerned with the soldier's commitment to military service as an acceptable way of life as reflected in his stated intentions to reenlist and pursue a career in the Army organization.
7. Perceived Leadership	7	Corresponds to the subordinate's judgment of the behaviors evidenced by his immediate superior such as the latter's level of technical competence, willingness to keep his men informed, flexibility, acceptance of responsibility, awareness of men's capabilities, and willingness to explain what needs to be done and why it is necessary.
8. Esprit de Corps	7	Reflects the commitment soldiers express toward other unit members in terms of their professional competence, teamwork, helpfulness, cooperativeness, trustworthiness, and likeability.
9. Unit Conduct	6	Identified with the extent to which each man views other unit members as maintaining proper military bearing with regard to needing direct supervision to get the job done right, displaying disorderly conduct off post, doing just enough work to get by, failing to show up on time, and doing poor quality work.

The Motivation/Satisfaction Instrument also included 29 other items designed to assess five dimensions of military job satisfaction (i.e., Dimensions 5-7) and unit cohesiveness (Dimensions 8-9). These items focused on the feelings and perceptions of soldiers about Army life in general rather than the immediate training sessions. All items except those measuring unit conduct were presented in the form of positive statements such as "My supervisor is tactically able to perform his combat duties well." The six items concerning unit conduct were phrased in a negative format such as "Members of my unit do poor quality work."

Combined Arms Units

To determine if REALTRAIN enhanced job-related satisfaction, a research effort was coordinated with the implementation of REALTRAIN in USAREUR by a TRADOC Mobile Training Team (MTC). This effort was supported by the Unit Training and Evaluation Systems Technical Area (UTES) of ARI. Scientists in UTES examined the performance effectiveness and job satisfaction of each of 24 platoons that participated in 1-week sessions of REALTRAIN and 8 platoons engaged in 3-week sessions. The engagements consisted of standard Army missions (e.g., attack, defense, and meeting engagement) involving opposing forces of comparable strength. Changes in the soldier's attitudes were assessed by administering the Motivation/Satisfaction Instrument to half of the members of each platoon before the exercises began and to the remainder after completion of the training.

Members of platoons engaging in REALTRAIN for 1 week were found to be similar in every respect to those who trained for 3 weeks with regard to responses along the motivation/satisfaction dimensions. Consequently, the responses of personnel in both types of training sessions were combined in all subsequent analyses. Statistical comparisons between the "before" and "after" measures revealed a consistent pattern for the four exercise-specific dimensions. Participation in REALTRAIN was found to improve significantly soldier responses along the Psychological Fidelity, Training Programs, Self-Improvement, and Leader Improvement dimensions. Thus, both leaders and subordinates held more positive attitudes toward the realism of the training environment, pursuing a career in the Army, and their own self-improvement after experiencing REALTRAIN.

Participation in REALTRAIN also had a favorable effect on certain facets of general job satisfaction in the Army. Specifically, the orientation of enlisted men toward their work role in the Army and their career intentions became significantly more positive after REALTRAIN. However, no significant changes concerning their satisfaction with leadership or perceptions of esprit de corps and unit conduct were seen. In short, REALTRAIN training had a significant positive impact on six of the nine motivation/satisfaction dimensions and no influence on the remaining three (see Table 3).

Table 3

Significant Changes Due to REALTRAIN

Motivation/satisfaction dimension	Significant change[a]
1. Psychological Fidelity	+
2. Self-Improvement	+
3. Leader Self-Improvement	+
4. Training Programs	+
5. Military Work Role	+
6. Career Intentions	+
7. Leadership	none
8. Esprit de Corps	none
9. Unit Conduct	none

[a]Positive sign (+) indicates that the "after" score was more favorable than the "before" one. None indicates that there was no statistically significant difference between the "before" and "after" scores.

Because the 1- and 3-week groups were the same in terms of responsiveness, the beneficial training effects on morale seemed relatively immediate and then leveled off with extended exposure. As would be expected, the strongest training effects were reflected in responses to those items that focused specifically on the perceived influence of the exercises. Perhaps even more interesting was the finding that general job satisfaction and intentions to pursue a career in the Army were favorably enhanced by the training. This finding suggests that the enriching experience engendered by the REALTRAIN exercises generalized to feelings about the Army.

It can be argued that any type of training in the field will enhance the job-related satisfaction/motivation associated with those exercises. This possibility was tested by comparing the attitudes of soldiers before and after their participation in both REALTRAIN and conventional training. Such attitudinal data were collected as part

of a field validation of REALTRAIN conducted under the direction of the ARI field unit at Fort Ord, Calif., with 18 infantry rifle squads.

Rifle Squads

A slightly modified version of the motivation/satisfaction instrument was used in this field test. First, only 27 items were included on the instrument to assess six, rather than nine, dimensions. By reducing the number of items and dimensions, the administration time was reduced from about 25 to 15 minutes, and several minor ambiguities and redundancies were eliminated. Also, responses were made along a 5-point scale that ranged from strongly disagree (1) to strongly agree (5).

Evaluations of the motivation/satisfaction related to the training of rifle squads were made in the context of a four-phase training and performance exercise.[3] In the pretraining phase, units were matched on combat-related performance and were alternately assigned to REALTRAIN or conventional training. During this stage, all members of the 18 squads completed the motivation/satisfaction instrument. Half of the squads then engaged in REALTRAIN training for 3 days, and the remainder performed conventional exercises. The final two phases involved performance tests in which the REALTRAIN and conventionally trained units separately fought a specially trained opposition force (this phase was identical to the pretraining one) and then confronted each other in a series of shootouts. Following the training, but prior to the last performance phase, the "after" form of the instrument was administered.

The results showed that REALTRAIN significantly improved soldier attitudes toward the training. In particular, respondents were more favorable on the Attitudes Toward the Exercises dimension after engaging in REALTRAIN than before. This dimension was comparable to a composite of the Psychological Fidelity, Self-Improvement, and Training Programs dimensions previously discussed. Moreover, Leader Self-Improvement responses were higher after REALTRAIN than before. Exposure to REALTRAIN also resulted in greater satisfaction with the Military Work Role responses after the training exercise was performed and a heightened sense of esprit de corps. However, no significant difference was observed between the pretraining and posttraining indicators of either satisfaction with leadership or career intentions.

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[3] Banks, J. H., Hardy, G. D., Scott, T. D., Kress, G., & Word, L. E. REALTRAIN Validation for Rifle Squads: Mission Accomplished. ARI Research Report 1192, October 1977.

Participation in the conventional exercises, however, had a significant effect on only one of the six motivation/satisfaction dimensions, i.e., Leader Improvement. Furthermore, leaders actually had a lower opinion of their own improvement after training than they had initially expected. This result is in striking contrast to the finding that REALTRAIN training markedly enhanced leader perceptions of their own improvement. It also is remarkable that conventional training did not positively influence any of the work-related responses that were improved by exposure to REALTRAIN. A summary of the relative impact of REALTRAIN and conventional training on each of the motivation/satisfaction dimensions is summarized in Table 4.

The REALTRAIN findings of the rifle squads field test are consistent with those of the USAREUR test with combined-arms units; i.e., participation in REALTRAIN had a favorable impact on attitudes of soldiers toward various facets of their work roles in the Army. This finding was particularly true with regard to their impressions about the benefits to be derived from the REALTRAIN exercises. Moreover, these positive impressions appeared to generalize and contribute more to favorable attitudes about Army life. In contrast, conventional exercises did not improve the motivation and satisfaction of soldiers with respect to either the training exercises or the Army in general.

CONCLUSIONS

REALTRAIN has fulfilled the recommendation of the Board for Dynamic Training by providing a stimulating learning experience that enhances the job satisfaction of participants. Furthermore, REALTRAIN may help to solve the staffing problems of interest to Army planners and managers by improving the soldier's orientation toward a career in the Army. According to many soldiers, incorporating REALTRAIN exercises into the regular Army training program would increase the desire to reenlist and pursue a career in the Army.

The success of REALTRAIN in developing favorable attitudes among soldiers underscores the need for more intrinsically rewarding training programs in the Army. The benefits that may be derived from using training exercises having intrinsic rewards include a greater motivation to work, more job satisfaction, and a more positive orientation toward the Army in general. These benefits could translate, in turn, to lower rates of personnel turnover and delinquency. Consequently, an all-volunteer combat force could be maintained more efficiently during peacetime if training programs included more challenging and realistic combat duties. Thus, by implementing techniques such as REALTRAIN the Army could fulfill the expectations of its recruits and trainees as well as expanding their commitment to the goals of the modern Army.

Table 4

Significant Changes Due to Exercises

Motivation/satisfaction dimension	Significant change[a]	
	REALTRAIN	Conventional
1. Attitudes Toward Exercises	+	none
2. Leader Self-Improvement	+	-
3. Military Work Role	+	none
4. Career Intentions	none	none
5. Leadership	none	none
6. Esprit de Corps	+	none

[a]A positive sign (+) indicates that the "after" score was more favorable than the "before" one. A negative sign (-) indicates that the "after" score was less favorable than the "before" one. None indicates that there was no statistical difference between the "before" and "after" scores.

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